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### ABSTRACT OF THE DISCLOSURE

A calibration system for calibrating orientation parameters of a digital optoelectronic sensor system includes an attitude and position determining system arranged in a mobile carrier, such as an airplane or a satellite, for determining the orientation parameters in flight. An optoelectronic component emits light in a defined direction with respect to the mobile carrier. A planar optical detector is arranged relative to the optoelectronic device for detecting the reflection of radiation emitted from the optoelectronic device and reflected off of a reference module arranged on the ground. The orientation parameters of the reference module are known, wherein the offsets of the orientation parameters of the attitude and position determining system may be determined by evaluating the radiation emitted by the light-emitting component, reflected from the reference module and received by the planar detector.